

*Compiled
Especially for
A-E-C 1952
Catalog*

LAWRENCE STEEL ROLLING DOORS

*the only
adjustable
gear door*

TYPES:

- *Service*
- *Labeled Fire*

CONTROLLED:

- *Manually*
- *Chain*
- *Crank*
- *Electrically*

LAWRENCE STEEL CO., Los Angeles, California

LAWRENCE STEEL ROLLING DOORS LAWRENCE



SOME NEW AND IMPORTANT INFORMATION FROM LAWRENCE

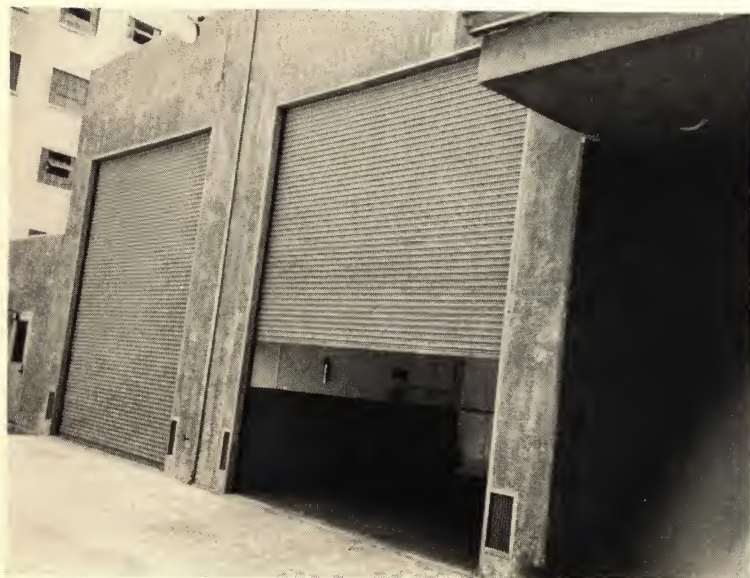
The Lawrence Steel Company of Los Angeles takes pride in announcing some new advances from their research department. In keeping with the great developments such as adjustable gearing, ball bearing usage, and machine cut patterns which have made the name of Lawrence the symbol of quality, they now add the modernization of pilot doors (also known as emergency or wicket doors) and the introduction of the "Modifier System."

The pilot doors have been modernized in that a heavy frame construction of especially formed steel has supplanted the older method of fabrication of these frames from steel members and has eliminated the tolerance variance which were once common. In addition the Lawrence Steel Company now make all their

pilot doors using hollow metal doors of heavy gauge steel in lieu of the older slat doors.

The instigation of the *Modifier System* in the construction of rolling doors is an offshot of the adjustable gear feature in that the operation of a door can be converted from one method to another at any time—e.g., a door originally equipped for chain operation may be converted in the field to crank, electric, or thru-the-wall operation to meet the changing requirements of progressive firms in accordance with their newer requirements.

The interchange of these standard forms of operation may be made as often as necessary and without changing the basic bracket nor removal of the door or its mounting brackets from the wall.





The New LAWRENCE Hollow Metal PILOT DOOR

Pictured here is an installation shown from the exterior view of the new hollow metal pilot door and its attractive frame. This unit is constructed for the door to hinge outward in accordance with most build-

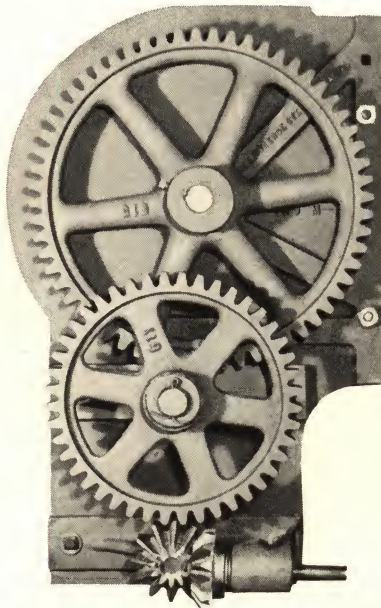
ing regulations and the frame to swing inward out of the way of traffic. Neat handles are provided on both sides as well as quality cylinder locks. 2'-6" x 6'-8" is considered legal minimum.

The New LAWRENCE CRANK MODIFIER

Here, we show a model 150 M-R equipped with the new 1150 modifier which can be added later as well as originally to make your unit crank operation. The addition of crank operation is sometimes used where operation of the door is de-

sired on both sides of the wall or where the shaft in handle crank is used so that only authorized persons may operate the unit.

The crank box is equipped for the pin or padlock type locking.



The THRU-THE-WALL MODIFIER For Chain Operation

This operator is used where the headroom will not permit the erection of the door on the side of the wall where operation is desired. Again, it may be added later or originally by simply removing the chain

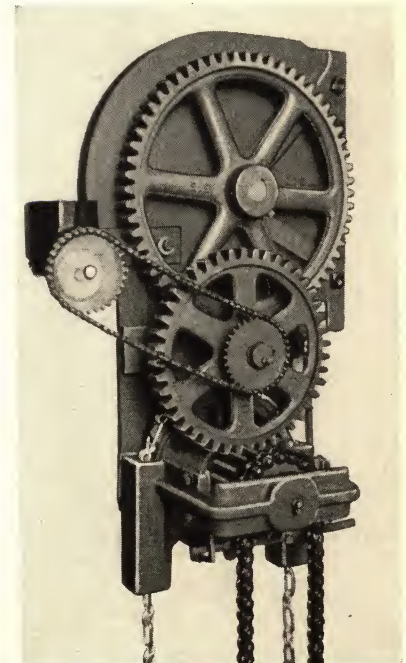
sprocket assembly and replacing same with the 1170 modifier shown on this 150 M-R base bracket. This unit is not used with crank operated doors nor when operation is desired on both sides of the wall.

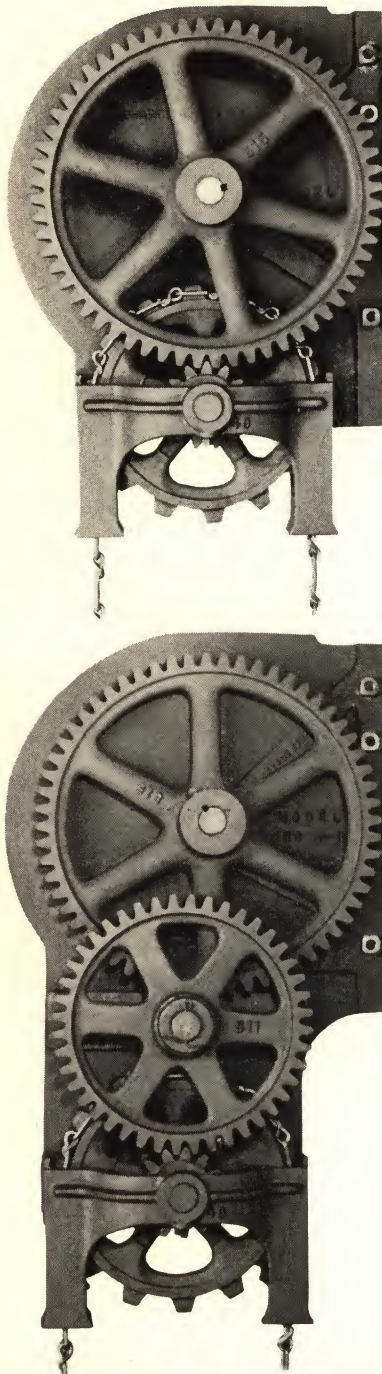
***The Famous "Clutch-Type"* LAWRENCE ELECTRIC OPERATORS**

Still the fastest auxiliary unit in the field today as well as being a part of the new modifier system in that the 538 assembly can be added later for conversion from any of the standard operations such as chain, crank, or thru-the-wall to meet the changing conditions of progressive firms. Motor sizes below and specifications are found on page 5. Three

phase power is recommended for most efficient and trouble free operation, however, single phase units are available.

DOOR SIZE	MOTOR SIZE
12'-0" x 12'-0"	1/2 H.P.
16'-0" x 16'-0"	3/4 H.P.
20'-0" x 18'-0"	1 H.P.





GENERAL: All steel rolling doors shall be as manufactured by the Lawrence Steel Company of Los Angeles or approved equal. Doors shall be erected by factory directed personnel and shall be guaranteed in writing for the period of one year from acceptance against any and all defective workmanship or materials. The following shall also apply:

CURTAIN: Shall be of rolled (not drawn) continuous interlocking slats of hot-dipped galvanized copper bearing steel and shall be of easy curves with no crimps or sharp bends. The curtain slats shall have not less than $\frac{1}{2}$ inch crown for all doors up to 11 feet in width or 14' in height with a $\frac{3}{4}$ inch crown required for wider or higher doors. Alternate slats shall be fitted with 2 heavy duty malleable endlocks not less than $\frac{3}{8}$ " thick secured with two rivets. The bottom rail shall be at least two angles of not less than $1\frac{1}{2}$ " x $1\frac{1}{2}$ " x $\frac{3}{16}$ " bolted back-to-back.

BARREL: Shall be of prime steel pipe of sufficient size to carry the door load with a maximum deflection of .03 inches per foot of width. Barrel shall house sufficient counterbalancing helical spring of oil-tempered wire to operate the door with a 25 lb. pull of the hand chain or handle. Springs shall be adjustable

within at least $\frac{1}{8}$ turn by a wheel outside the supporting bracket.

BRACKETS AND GEARING: Shall be of high tensile gray iron castings free from flaws and made from machine cut patterns. Gearing shall be adjustable. Brackets shall be attached to the guide structure for maximum strength with three carriage bolts of not less than $\frac{1}{2}$ inch diameter. Bracket assembly shall include close cropped safety continuous hand chain and non-fouling chain guide.

BEARINGS AND SHAFTING: Sealed ball bearings, packed for life, shall be fitted at roller movement points. $1\frac{3}{16}$ " inch diameter shafting shall be minimum.

HOOD: Shall be of not less than 24 gauge material. Hood shall be of hot-dipped galvanized open hearth copper bearing steel and neatly formed to fit the contour of the end and interim supporting brackets.

GUIDES: Shall be of the formed channel type welded to heavy structural angles and attached to the wall by either well set fittings or deep cast bolts as set to the door contractor's diagram by the general contractor.

PAINTING: Shall include the shop coat of rust inhibitive primer on all parts of the door.

SPECIFICATIONS FOR LAWRENCE

ELECTRIC OPERATORS

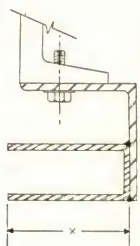
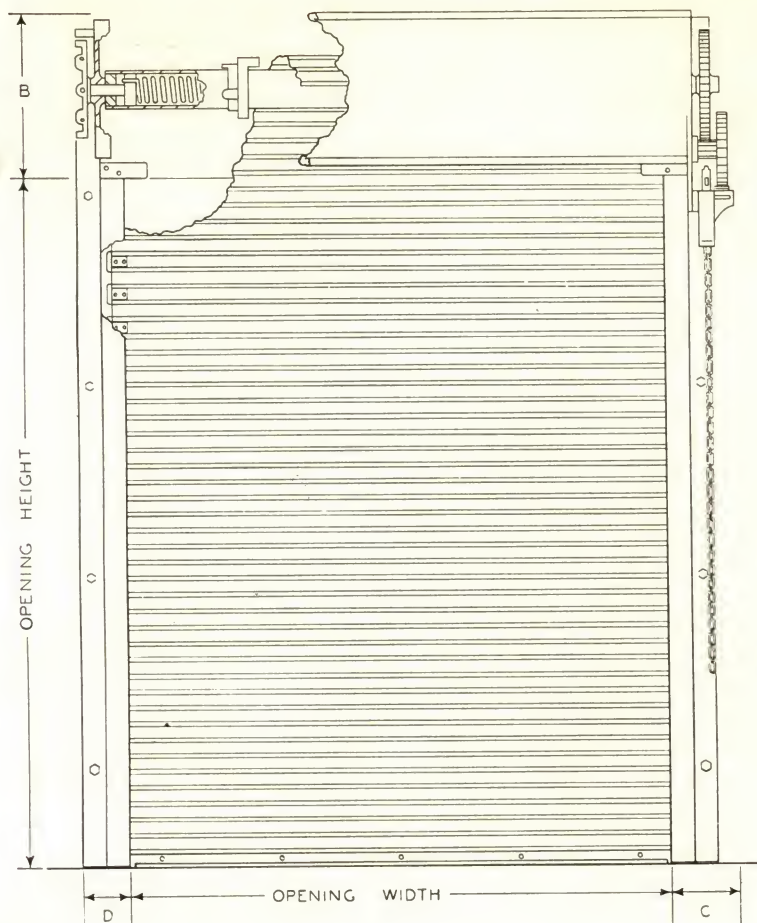
1. OPERATION: All rolling doors, so indicated on the plans or in the door schedule, shall be electrically operated in accordance with the following specifications:

2. ELECTRICAL EQUIPMENT: The electrical equipment furnished by the door contractor shall include a nema standard motor of sufficient size to correctly operate the door without undue loading, an enclosed dust free magnetic brake mounted on the motor end bell, the magnetic reversing motor starter with reset button, the mounted gear type limit switch set to terminate the door travel at the full open or full closed positions, a three button control station marked "open," "close," and "stop" for the remote working of the door operator.

3. ELECTRICIANS ASSISTANCE: The door manufacturer shall furnish at the time of the shop details, a suggested wiring diagram for the use of the electrical contractor.

4. OPERATING SPEED: The electric operator shall be so geared to open or close the door at the rate of 40 feet per minute.

5. AUXILIARY OPERATION: The operator shall be so constructed that the electric motor, motor brake, and initial speed reduction gearing shall be by-passed during the auxiliary hand operation. The door shall operate in auxiliary operation with a maximum pull of 25 lbs.



X	Y	Door Width
2½	4	Thru 10'
3	5	Thru 20'
3½	6	Thru 26'
4	7	Thru 30'

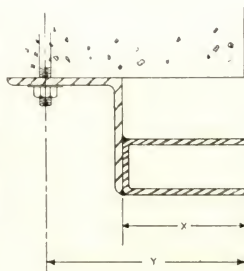


TABLE OF CLEARANCE DIMENSIONS (Face of Wall Units only)

Height → Opening Width ↓	0 to 8'-0"				8'-0" to 10'-0"				10'-0" to 13'-0"				13'-0" to 16'-0"				16'-0" to 24'-0"			
Dimensions in inches	A	B	C**	D	A	B	C**	D	A	B	C**	D	A	B	C**	D	A	B	C**	D
0 to 8'-0"	13	17	5	5	13	17	8	5	17	19½	9	6	17	21	9	6	22	25	10	7
	(Model 110N)				(110S)				(150S)				(150M)				(210M)			
8'-0" to 12'-0"	13	17	8	5	13	17	8	5	17	19½	9	6	17	21	9	6	22	25	10	7
	(110S)				(110S)				(150S)				(150M)				(210M)			
12'-0" to 16'-0"	17	19½	9	6	17	19½	9	6	17	21	9	6	17	21	9	6	22	25	10	7
	(150S)				(150S)				(150M)				(150M)				(210M)			
16'-0" to 20'-0"	17	21	9	6	17	21	9	6	17	21	10	7	22	25	10	7	22	25	10	7
	(150M)				(150M)				(150M)				(210M)				(210M)			
20'-0" to 30'-0"	17	21	10	7	17	21	10	7	22	25	10	7	22	25	10	7	Refer to Factory			
	(150M)				(150M)				(210M)				(210M)							

Notes: { N = Push Up (no gears)
S = Gear (single)
M = Gear (multiple)

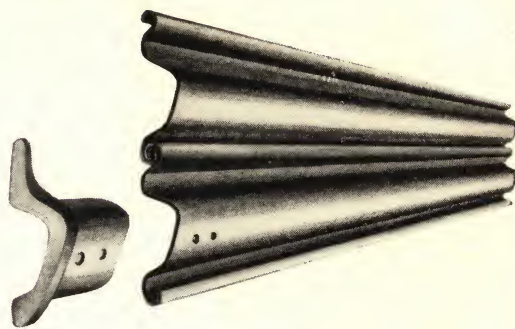
Modifiers: { C = Crank
T = Thru the Wall
E = Electric

Example: Model 150ser = Model 150—single gear—electric—right hand operation.

* This table set up for right hand operation. Reverse "C" and "D" for left hand operation.

** Change C from 9 to 14 or 10 to 15 for electric operations.

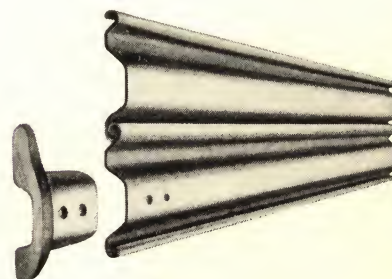
LAWRENCE "Duty" SLATS



A = Able 7/8 Crown

The "A" for Able slat is the Lawrence standard for medium, large and extra large doors with a 7/8" crown and 3 inch width. It is available in 22, 20, and 18 gauge material. Tests have been successful at 35 lbs. pressure and at 40 lbs. pressure when further equipped with wind locks at 20" O. C.

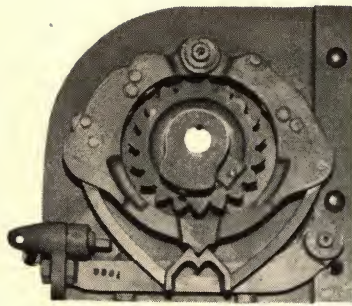
Standard slat gauges are as follows: Doors up to 12'-6" wide—22 gauge; over 12'-6" to 19'-0" without wind locks or to 23'-0" with wind locks 20 gauge; up to 28'-0"—18 gauge, and doors over 28'-0" please refer to the factory.



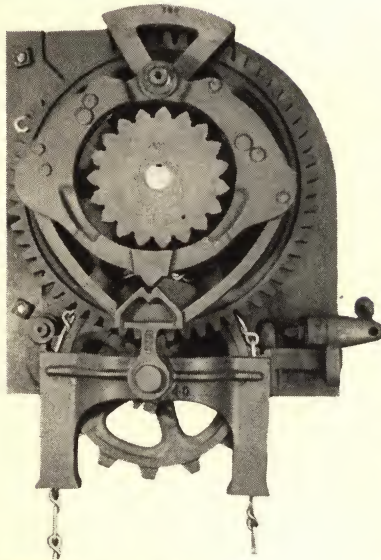
B = Baby 1/2 Crown

The "B" for Baby slat is designed for small door units not exceeding 11 feet wide or 14 feet in height. Its 1/2 inch crown and 2 3/8 inch over-all width is produced in either 22 or 20 gauge material and has tested to 25 lbs. for wind pressure. It is approved with continuous end clips for use in labeled fire doors of the small size. Its main advantage is the close nestling action into smaller brackets and hence less headroom.

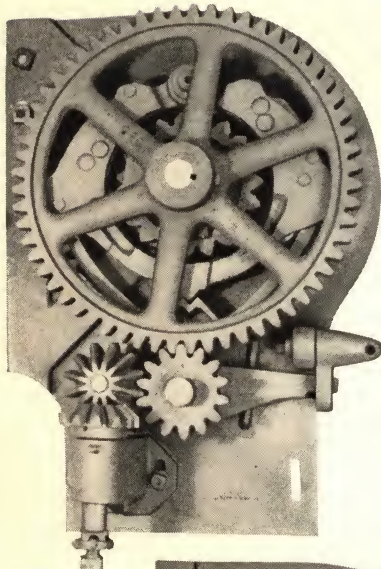
All Lawrence slats, including its "Duty" and "Special" sections, are produced of open hearth copper bearing cold rolled steel of the finest quality with the added protection of heavy galvanizing for the severest weather conditions.



Model
714

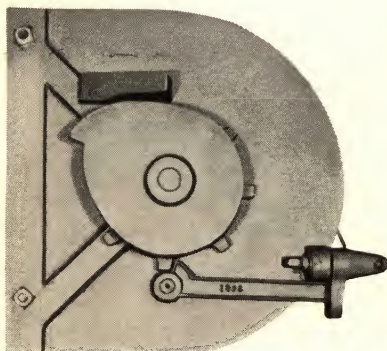


Model
717



Model
723

Typical
Single
Eccentric
for
Lawrence
"700"
Labeled
Fire
Doors



GENERAL: All steel rolling fire doors shall be similar and equal to the Lawrence Series "700" fire doors and shall bear the Underwriters label designated on the plans. All rolling fire doors shall be equipped with a positive governor that shall also act as a warning device of the door's automatic operation. The governor shall be held normally inactive during the service use of the door, but shall be fully operative in the event of automatic release. All rolling fire doors shall also be equipped with a suitable mechanism to force downward travel of the door curtain, overcoming any obstruction present. The forcing mechanism shall be coordinated with the governor for the maximum efficient operation of both. Neither the governor nor the other automatic features shall effect the general service use of the door.

COUNTER-BALANCING MECHANISM: Springs shall be adjustable by exterior means to not less than one-eighth of a turn to guarantee proper spring adjustment. Springs shall be of tight-wound oil tempered wire, and shall be firmly mounted to fittings and shafting before secured within the barrel.

CURTAIN: To be formed of interlocking slats of hot-dipped galvanized, bonderized copper bearing steel of the gauge specified by the Underwriters' Laboratory, Inc. Each slat shall be fitted with malleable end clips to act as flame stops and wearing surface in the guides. The top slat shall be reinforced by a heavier metal strap and attached to the barrel collars by machine bolts.

BOTTOM RAIL: Shall be made of two pieces of angle back-to-back secured to each by machine screws and slip washers.

Angles shall be of sufficient size to adequately reinforce the curtain and provide good contact with the door sill.

BRACKETS (and all castings): Shall be of top quality gray iron or red brass. All castings shall be free of imperfections. All castings shall be made from Machine Cut Patterns. A self-aligning ball bearing shall be incorporated in the power bracket and in the spring side of the barrel assembly to permit the free movement of the door mechanism.

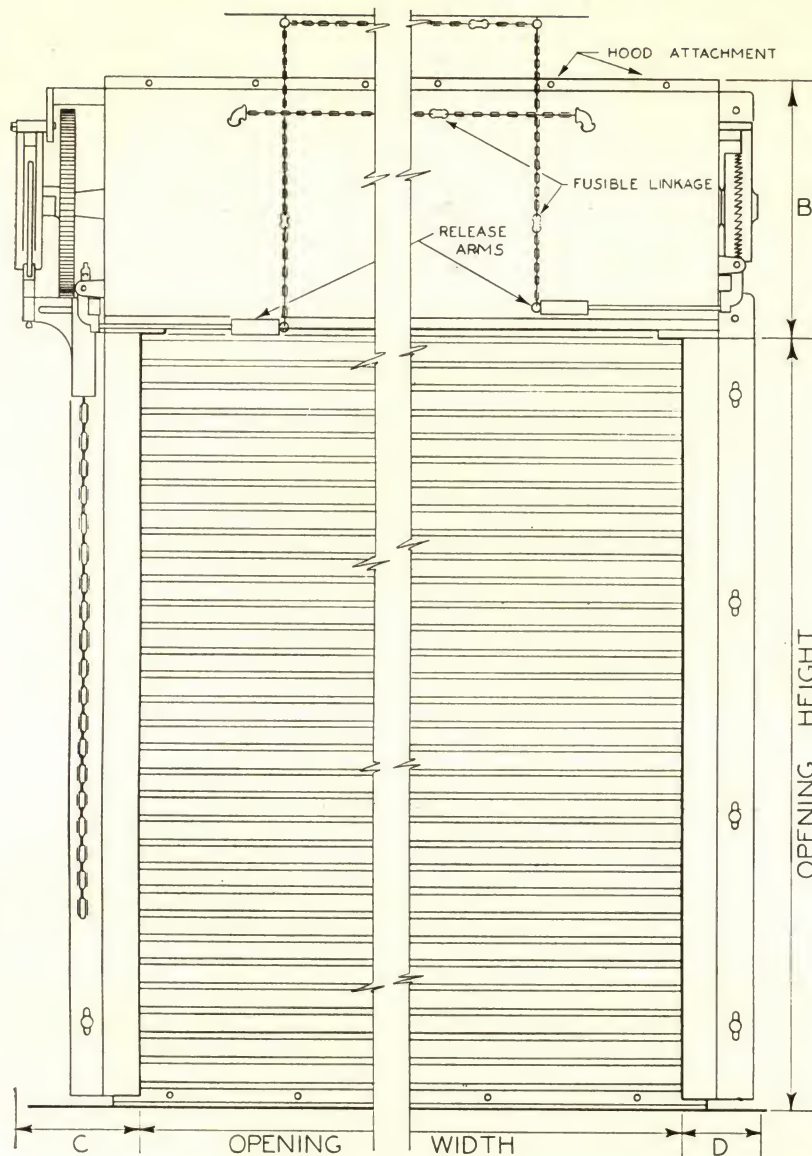
GUIDES: Shall be composed of a 3" x 3" x $\frac{3}{16}$ " angle and a neatly formed channel of not less than $\frac{3}{16}$ " material, and of correct depth as specified by the Underwriters' Laboratories, Inc. Guides shall be assembled and mounted to the wall by means of bolt and nuts with slip washers.

BARREL: Shall be of heavy pipe with a barrel deflection of not more than .03 inches per foot of width. The barrel shall contain and protect the master counter-balancing spring assembly as specified above. Barrel assembly shall include curtain collars at not more than 3 feet on center for curtain attachment.

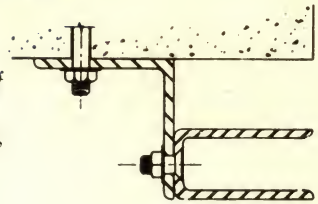
HOOD: Shall be of not less than 24 gauge galvanized sheet metal. Hood shall be equipped with a suitable flame stop as provided in Underwriters' requirements. A suitable type of construction shall hold linkage away from the hood to prevent heat absorption by the hood.

PAINT: All parts, except galvanized chains and fusible linkage, shall receive one shop coat of high quality red rust inhibitive primer.

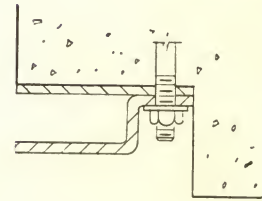
UNDERWRITERS LABELED FIRE DOORS



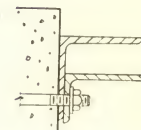
Standard Face of Wall Guide
Models 711, 714,
721, 723, 733



Standard Between Jamb Guide
Model 717



Alternate Between Jamb Guide
Model 717



**TABLE OF CLEARANCE DIMENSIONS
(Face of Wall)**

Opening Height — Feet		To 8§	8 to 12	12 to 24
Dimensions—Ins.		A B C D	A B C D	A B C D
Opening Width — Feet	To 10§	15-16½-9½-8 (Model 714)	17-21-11-8 (Model 711)	24½-28-12-8 (Model 727)
	To 12	17-21-22-8 (Model 711)	17-21-11-8 (Model 711)	24½-28-12-8 (Model 727)
	To 24	(Model 721)	24½-28-12-8 (Model 723)	24½-28-12-8 (Model 727)

* Dimensions in table are for LEFT HAND control. For RIGHT HAND control reverse dimensions "C" & "D" of table.

§ We do not recommend Model 714 in sizes larger than 10 feet in width or 8 feet in height.

For Designing Dimensions of Lawrence Model 717, refer to regular Lawrence Catalog or your local representative.

LAWRENCE STEEL ROLLING FIRE DOORS — SERIES "700"

The Lawrence series "700" steel rolling fire doors bear the labels for Classes A, B, C, and D of the Underwriters' Laboratories, Inc.* (see note at bottom Page 8). The "700" keynotes new standards for operational ease as well as maximum assurance of fire protection. Incorporated in the design are such features as the "Coordinated Governor" and the "Eccentric Kick-Off" which operates to govern the rate and guarantee the door's closure.

The action of the "Coordinated Governor" is operative only during automatic closing. The speed of closure and the weight of the closing curtain are controlled to protect any personnel beneath from possible injury.

The "Eccentric Kick-Off" is found only on Lawrence steel rolling fire doors. This action utilizes a portion of the power of the master counter-balancing spring tension to drive the door curtain toward the closed position by reversing its pressure. The result of the design and operation is to break any obstruction such as paint adherence, corrosion-binding, falling plaster and concrete, and other common hindrances to automatic door operation.

The "700" provides an additional safety feature to persons within a burning building. After the door's release and automatic closure, it can be opened to permit trapped persons to escape the burning area. This is possible without unduly exposing the area to fire hazard as the door will automatically return to the closed position under full governor control after their escape. This outstanding new safety feature is valuable where fire doors are contemplated for schools, offices, and other public buildings.

The Lawrence series "700" is not an overnight invention, but represents the work of some 15 years of research, experimentation, and development. The series includes the following popular models: The face-of-wall mounted push-up model 714, the between-jamb or under lintel model 717, and the face-of-wall mounted chain operated models 711, 721, 723, and 727 depending upon opening size (see schedule). New models for different conditions are being added as fast as completion of final testing can be made.

Specification of Lawrence Rolling Fire Doors means demanding the "Best" in material and working qualities.



This installation of 5 medium large units demonstrates the neatness of appearance of rolling door use in automotive service buildings permitting maximum use of available area.

The Lawrence Steel Co. is proud that its clutch-type electric operators are a part of this highly efficient new fire station. The high speed auxiliary hand chain operation means that power failures do not prevent quick opening time. The door is otherwise electric operation with auto-closing to release the man generally left behind to close up, to do the more important work of fighting fires.



A FEW NOTES:

All Lawrence steel rolling doors are guaranteed for one year against any defective workmanship or materials.

A service manual pertaining to the servicing and simple repairing of rolling doors is furnished with each unit.

Underwriters' labels are listed in the following order: Class "A" for openings in fire wall; Class "B" for openings in vertical shafts; Class "C" for open-

ings in corridor or room partitions; Class "D" for openings in exterior walls. Classes A, B, C, & D shall not exceed 120 sq. feet nor have a width or height in excess of 12 feet. Class "A" doors are generally used in pairs to comply with the four hour rating of the wall construction.

Fire doors in excess of the foregoing specifications but not exceeding 24 feet in width or height shall bear the "Oversize" label when built in accordance with U. L. Standards.

LAWRENCE
STEEL ROLLING DOORS
LAWRENCE

THE LAWRENCE STEEL CO.

5746 VENICE BOULEVARD • LOS ANGELES 19 • CALIFORNIA

Our Cable Address is: "LAWRENCE-LOS ANGELES"